

REMARKS

By this amendment, claims 1-10 have been amended. Claims 1-10 remain in the application. Support for the amendments to the claim can be found the specification and drawings. No new matter has been added. This application has been carefully considered in connection with the Examiner's Action. Reconsideration, and allowance of the application, as amended, is respectfully requested.

Objection to the Drawings

The drawings stand objected to under 37 CFR 1.83(a) as not showing every feature of the invention specified in the claims. Applicant acknowledges the issue raised by the Examiner and in response thereto claim 6 has been amended to delete reference to "means for detecting a movement". Claim 6 has been amended to more particularly recited, in part, "wherein the data processing unit is further designed to detect a movement" as is supported in the original specification on at least page 4, lines 28-32. Objection to the drawings is now believed overcome. Withdrawal of the objection is respectfully requested.

Objection to the Specification

The specification stands objected to in view of "[h]eading for each section are missing." Applicant respectfully traverses this objection, since heading are not required in accordance with MPEP §608.01(a).

The specification stands further objected to in that a "[d]escription of the drawings is missing." Applicant respectfully traverses this objection. While the specification as originally filed contained a brief description of the sole Figure on page 6, lines 7-8, the same has been amended to more clearly indicated Figure 1.

The objection to the specification is now believed overcome. Withdrawal of the objection is respectfully requested.

Rejection under 35 U.S.C. §112

Claims 1-10 stand rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant acknowledges the issue raised by the Examiner and in response thereto have amended the claims, as appropriate, to resolve the 35 USC §112, second paragraph issues. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. §102

Claim 1 recites an X-ray unit for generating imagings of a body, comprising:

- a) an X-ray source;
- b) an automatically adjustable collimator including diaphragm and filter elements for limiting, locally attenuating and/or filtering an X-ray beam output from the X-ray source;
- c) an X-ray detector for detecting X-rays; and
- d) a data processing unit coupled to the collimator and to the X-ray detector, wherein the data processing unit is designed to localize a region of interest inside the body on at least a first X-ray picture of the body transmitted by the X-ray detector and to transmit commands to the collimator to adjust the diaphragm and filter elements of the collimator in accordance with a restriction of subsequent X-ray beams to the localized region of interest such that the subsequent X-ray beams and corresponding detected X-rays result in subsequent X-ray pictures that are concentrated on the localized region of interest, wherein a concentration of the subsequent X-ray pictures includes (i) a best possible display of the localized region of interest and (ii) a blocking-out of all body regions not belonging to the localized region of interest, further including a smooth transition zone between the display of the localized region of interest and the blocking-out so that certain residual information remains detectable in

the transition zone with reduced radiation exposure.

Support for the amendments to claim 1 (as well as for claim 10) can be found in the specification at least on page 2, lines 22-25; page 3, lines 1-9; page 4, lines 28-32; page 6, lines 28-31; and page 7, lines 10-14.

Claims 1-5 and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by **Roeck et al.** (US 5394455). With respect to claim 1, Applicants respectfully traverse this rejection for at least the following reasons.

The PTO provides in MPEP § 2131 that

"[t]o anticipate a claim, the reference must teach every element of the claim...."

Therefore, with respect to claim 1, to sustain this rejection the **Roeck et al.** reference must contain all of the above claimed elements of the respective claims. However, contrary to the examiner's position that all elements are disclosed in the **Roeck et al.** reference, the latter reference does not specifically disclose a "data processing unit ... designed to localize a region of interest ... *and* to transmit commands to the collimator to adjust the diaphragm and filter elements ... in accordance with a *restriction* of subsequent X-ray beams to the localized region of interest such that ... result in subsequent X-ray pictures that are concentrated ... wherein a *concentration* of the subsequent X-ray pictures includes (i) a *best possible display* of the localized region of interest *and* (ii) a *blocking-out* of all body regions not belonging to the localized region of interest, *further including* a smooth *transition zone* between the display of the localized region of interest and the blocking-out so that certain *residual information* remains detectable in the transition zone with *reduced radiation exposure*" as is claimed in claim 1.

Therefore, the rejection is not supported by the **Roeck et al.** reference and

should be withdrawn. Accordingly, claim 1 is allowable and an early formal notice thereof is requested. Dependent claims 1-5 depend from and further limit allowable independent claim 1 and therefore are allowable as well.

By this amendment, claim 10 has been amended in a similar manner with respect to the amendments to claim 1. Claim 10 is believed allowable over the **Roeck et al.** reference for reasons similar as stated herein above with respect to overcoming the rejection of claim 1. Accordingly, claim 10 is believed allowable and the rejection thereof should be withdrawn.

Claims 1-4 and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by **Kump et al.** (US 6215853B1). With respect to claim 1, Applicants respectfully traverse this rejection for at least the following reasons.

The PTO provides in MPEP § 2131 that

"[t]o anticipate a claim, the reference must teach every element of the claim...."

Therefore, with respect to claim 1, to sustain this rejection the **Kump et al.** reference must contain all of the above claimed elements of the respective claims. However, contrary to the examiner's position that all elements are disclosed in the **Kump et al.** reference, the latter reference does not specifically disclose a "data processing unit ... designed to localize a region of interest ... *and* to transmit commands to the collimator to adjust the diaphragm and filter elements ... in accordance with a *restriction* of subsequent X-ray beams to the localized region of interest such that ... result in subsequent X-ray pictures that are concentrated ... wherein a *concentration* of the subsequent X-ray pictures includes (i) a *best possible display* of the localized region of interest *and* (ii) a *blocking-out* of all body regions not belonging to the localized region of interest, *further including* a smooth *transition zone* between the display of the localized region of interest and the blocking-out so that certain *residual information*

remains detectable in the transition zone with *reduced radiation exposure*" as is claimed in claim 1.

Therefore, the rejection is not supported by the **Kump et al.** reference and should be withdrawn. Accordingly, claim 1 is allowable and an early formal notice thereof is requested. Dependent claims 1-4 depend from and further limit allowable independent claim 1 and therefore are allowable as well.

By this amendment, claim 10 has been amended in a similar manner with respect to the amendments to claim 1. Claim 10 is believed allowable over the **Kump et al.** reference for reasons similar as stated herein above with respect to overcoming the rejection of claim 1. Accordingly, claim 10 is believed allowable and the rejection thereof should be withdrawn.

Claims 1 and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by **Stegehuis et al.** (US 5287396). With respect to claim 1, Applicants respectfully traverse this rejection for at least the following reasons.

The PTO provides in MPEP § 2131 that

"[t]o anticipate a claim, the reference must teach every element of the claim...."

Therefore, with respect to claim 1, to sustain this rejection the **Stegehuis et al.** reference must contain all of the above claimed elements of the respective claims. However, contrary to the examiner's position that all elements are disclosed in the **Stegehuis et al.** reference, the latter reference does not specifically disclose a "data processing unit ... designed to localize a region of interest ... *and* to transmit commands to the collimator to adjust the diaphragm and filter elements ... in accordance with a *restriction* of subsequent X-ray beams to the localized region of interest such that ... result in subsequent X-ray pictures that are concentrated ... wherein a *concentration* of the subsequent X-ray pictures includes (i) a *best possible display* of the localized region

of interest *and* (ii) a *blocking-out* of all body regions not belonging to the localized region of interest, *further including a smooth transition zone* between the display of the localized region of interest and the blocking-out so that certain *residual information* remains detectable in the transition zone with *reduced radiation exposure*" as is claimed in claim 1.

Therefore, the rejection is not supported by the **Stegehuis et al.** reference and should be withdrawn. Accordingly, claim 1 is allowable and an early formal notice thereof is requested.

By this amendment, claim 10 has been amended in a similar manner with respect to the amendments to claim 1. Claim 10 is believed allowable over the **Stegehuis et al.** reference for reasons similar as stated herein above with respect to overcoming the rejection of claim 1. Accordingly, claim 10 is believed allowable and the rejection thereof should be withdrawn.

Claims 1 and 8-9 were rejected under 35 U.S.C. § 102(b) as being anticipated by **Popescu** (US 6501828B1). With respect to claim 1, Applicants respectfully traverse this rejection for at least the following reasons.

The PTO provides in MPEP § 2131 that

"[t]o anticipate a claim, the reference must teach every element of the claim...."

Therefore, with respect to claim 1, to sustain this rejection the **Popescu** reference must contain all of the above claimed elements of the respective claims. However, contrary to the examiner's position that all elements are disclosed in the **Popescu** reference, the latter reference does not specifically disclose a "data processing unit ... designed to localize a region of interest ... *and* to transmit commands to the collimator to adjust the diaphragm and filter elements ... in accordance with a *restriction* of subsequent X-ray beams to the localized region of interest such that ...

result in subsequent X-ray pictures that are concentrated ... wherein a *concentration* of the subsequent X-ray pictures includes (i) a *best possible display* of the localized region of interest and (ii) a *blocking-out* of all body regions not belonging to the localized region of interest, *further including* a smooth *transition zone* between the display of the localized region of interest and the blocking-out so that certain *residual information* remains detectable in the transition zone with *reduced radiation exposure*" as is claimed in claim 1.

Therefore, the rejection is not supported by the **Popescu** reference and should be withdrawn. Accordingly, claim 1 is allowable and an early formal notice thereof is requested. Dependent claims 8-9 depend from and further limit allowable independent claim 1 and therefore are allowable as well.

Rejection under 35 U.S.C. §103

Claims 6-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over **Popescu** (US 6501828B1).

With respect to claims 6 and 7, the same depend from and further limit allowable independent claim 1 and therefore are allowable as well. Accordingly, claims 6 and 7 are thus allowable and an early formal notice thereof is requested. The 35 U.S.C. § 103(a) rejection thereof has now been overcome.

Conclusion

Except as indicated herein, the claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore reserve their right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or a continuation application.

It is clear from all of the foregoing that independent claims 1 and 10 are in condition for allowance. Dependent claims 2-9 depend from and further limit allowable independent claim 1 and therefore are allowable as well.

The amendments herein are fully supported by the original specification and drawings; therefore, no new matter is introduced. An early formal notice of allowance of claims 1-10 is requested.

Respectfully submitted,



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Dated: Sept. 29, 2007

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a-32658.164